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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/618,171

07/10/2003

Alfred I-Tsung Pan

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EXAMINER

MAPLES, JOHN S

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

07/23/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/618,171	Applicant(s) PAN, ALFRED I-TSUNG	
	Examiner John S. Maples	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-18 and 25-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-18 and 25-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The following is a quotation of the second paragraph of 35 U.S.C.

112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 26 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. (New Rejection)

Claim 26 recites the porous layer comprising a catalyst. This language is incongruent with claim 12, the claim on which claim 26 depends, because claim 12 states that the porous layer includes pores that distributes fuel to the catalyst. Amendment of claim 26 is required.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 12-14, 25-32, 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Rajendran-US 5,981,097. (Rajendran) (New Rejection)

Rajendran teaches in Figure 1 and column 1, lines 20-37; column 7, line 24 through column 8, line 16, a proton exchange membrane for a fuel cell, which membrane is located between a first flexible circuit 30/16-anode, including a first flexible substrate 30 and a second flexible circuit 22/18-cathode, including a second flexible substrate 22. Each of the said circuits in Rajendran include

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respective porous layers 16 and 18 for the passage of fuel and oxidant through pores/openings in the porous layers-see column 7, line 57 through column 8, line 3 therein. The first circuit includes a catalyst 30 and the second circuit includes a catalyst 22. The two circuits are flexible because the materials making up the same are flexible. It is noted that the outer surfaces of the membrane and the circuits comprise the passage of claim 32. There is inherently deionized water between the anode and cathode because the same is produced during the electrochemical reactions of the fuel cell.

5. Claims 12, 13, 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Steyn-US 6,007,932. (Steyn) (New Rejection)

Steyn teaches in Figures 1-3 and column 3, line 52 through column 6, line 3, a cylindrical flexible fuel cell including a porous layer 12 including a plurality of pores that is part of a first flexible circuit including anode 30/34. The claimed flexible second circuit includes cathode 42/46. Steyn teaches the cylindrical flexible fuel cell configuration with fuel-methanol fed on the inside thereof and oxidant fed on the outside thereof-see column 5, lines 12-18.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 15-18, 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rajendran in view of both Steyn and Todd et al.-US 6,197,145. (Todd) (New Rejection)

The only claimed features not taught by Rajendran are the cylindrical shape of the fuel cell with fuel-methanol fed through the inside thereof and oxidant fed on the outside thereof and for the dry film adhesive between the two flexible substrates. Steyn teaches a cylindrical flexible fuel cell configuration with fuel-methanol fed on the inside thereof and oxidant fed on the outside thereof- see column 3, line 52 through column 5, line 50. To have formed the fuel cell of Rajendran in the cylindrical form as taught by Steyn would have been obvious so that the said fuel cell could be used in more compact environments. Todd teaches a method of attaching flexible plastic films having electronic circuitry via a dry film adhesive. It would have been obvious to have joined the flexible substrates in Rajendran as taught by Todd so that the substrates would not come apart if bumped and the circuitry would remain more reliable.

8. All of applicant's arguments are deemed moot in view of the above new grounds of rejection.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John S. Maples whose telephone number is 571-272-1287. The examiner can normally be reached on Monday-Friday, 8:00-4:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John S. Maples/

John S. Maples
Primary Examiner
Art Unit 1795

JSM/7-20-2008